

3GPP FREQUENCY BANDS

LEGEND	
FDD	- Frequency Division Duplexing
TDD	- Time Division Duplexing
SDL	- Supplemental Downlink
SUL	- Supplemental Uplink

View FR2 Bands Table

LTE Operating Band	NR Operating Band	Uplink (UL) operating band Base Station (BS) receive User Equipment (UE) transmit		Downlink (DL) operating band Base Station (BS) transmit User Equipment (UE) receive		Duplex Mode	LTE Bandwidths	NR Bandwidths	Nickname(s)	Region(s) of Usage
		FDL_Low	FDL_High	FDL_Low	FDL_High					
1	n1	1920 MHz	- 1980 MHz	2110 MHz	- 2170 MHz	FDD	5, 10, 15, 20	5, 10, 15, 20, 25, 30, 40, 45, 50	UMTS IMT, 2100, IMT Core	EMEA, Asia, Japan
2	n2	1850 MHz	- 1910 MHz	1930 MHz	- 1990 MHz	FDD	1.4, 3, 5, 10, 15, 20	5, 10, 15, 20, 25, 30, 35, 40	PCS, 1900	North America, Canada, Latin America
3	n3	1710 MHz	- 1785 MHz	1805 MHz	- 1880 MHz	FDD	1.4, 3, 5, 10, 15, 20	5, 10, 15, 20, 25, 30, 35, 40	DCS, 1800	Europe
4	n4	1710 MHz	- 1785 MHz	2110 MHz	- 2155 MHz	FDD	1.4, 3, 5, 10, 15, 20		AWS, 1.772.1	North America, Canada, Latin America
5	n5	824 MHz	- 849 MHz	869 MHz	- 894 MHz	FDD	1.4, 3, 5, 10	5, 10, 15, 20, 25	GSM850, Cellular 850, UMS850	North America, Canada, Latin America, Australia
7	n7	2500 MHz	- 2570 MHz	2620 MHz	- 2690 MHz	FDD	5, 10, 15, 20	5, 10, 15, 20, 25, 30, 35, 40, 50	IMT-Extension 2.6 GHz	Europe
8	n8	880 MHz	- 915 MHz	925 MHz	- 960 MHz	FDD	1.4, 3, 5, 10	5, 10, 15, 20, 25, 35	GSM, EGSM, GSM900, EGSM900, UMS900	Europe, Latin America
9	n9	1749.9 MHz	- 1784.9 MHz	1844.9 MHz	- 1879.9 MHz	FDD	5, 10, 15, 20		UMTS1700	Japan
10	n10	1710 MHz	- 1770 MHz	2110 MHz	- 2170 MHz	FDD	5, 10, 15, 20		UMTS, IMT2000, 3G Americas	-
11	n11	1427.9 MHz	- 1447.9 MHz	1475.9 MHz	- 1495.9 MHz	FDD	5, 10		PDC, 1500 MHz lower	Japan
12	n12	899 MHz	- 716 MHz	729 MHz	- 746 MHz	FDD	1.4, 3, 5, 10	5, 10, 15		US
13	n13	777 MHz	- 787 MHz	748 MHz	- 766 MHz	FDD	5, 10	5, 10	700 MHz Block C	North America
14	n14	788 MHz	- 798 MHz	758 MHz	- 788 MHz	FDD	5, 10	5, 10	700 MHz Block D	North America
17	n17	704 MHz	- 719 MHz	734 MHz	- 746 MHz	FDD	5, 10		700 MHz Block A	North America
18	n18	815 MHz	- 830 MHz	890 MHz	- 875 MHz	FDD	5, 10, 15	5, 10, 15		Japan
19	n19	830 MHz	- 845 MHz	875 MHz	- 890 MHz	FDD	5, 10, 15			Japan
20	n20	832 MHz	- 862 MHz	791 MHz	- 821 MHz	FDD	5, 10, 15, 20	5, 10, 15, 20		Europe
21	n21	1447.9 MHz	- 1482.9 MHz	1495.9 MHz	- 1510.9 MHz	FDD	5, 10, 15		1500 MHz upper	-
22	n22	3410 MHz	- 3490 MHz	3510 MHz	- 3590 MHz	FDD	5, 10, 15, 20			-
24	n24	1626.5 MHz	- 1660.5 MHz	1525 MHz	- 1559 MHz	FDD	5, 10	5, 10	MSS spectrum	North America
25	n25	1850 MHz	- 1915 MHz	1930 MHz	- 1995 MHz	FDD	1.4, 3, 5, 10, 15, 20	5, 10, 15, 20, 25, 30, 35, 40, 45	PCS G block	North America
26	n26	814 MHz	- 849 MHz	859 MHz	- 894 MHz	FDD	1.4, 3, 5, 10, 15	5, 10, 15, 20, 25, 30		North America
27	n27	807 MHz	- 824 MHz	852 MHz	- 869 MHz	FDD	1.4, 3, 5, 10			North America
28	n28	703 MHz	- 748 MHz	758 MHz	- 803 MHz	FDD	3, 5, 10, 15, 20	5, 10, 15, 20, 25, 30	APAC700	APAC
29	n29	N/A	- N/A	717 MHz	- 728 MHz	SDL	3, 5, 10	3, 5, 10		North America
30	n30	2305 MHz	- 2315 MHz	2350 MHz	- 2380 MHz	FDD	5, 10	5, 10	WCS	North America ATT
31	n31	452.5 MHz	- 457.5 MHz	462.5 MHz	- 467.5 MHz	FDD	1.4, 3, 5			Brazil
32	n32	N/A	- N/A	1452 MHz	- 1496 MHz	SDL	5, 10, 15, 20			-
65	n65	1920 MHz	- 2010 MHz	2110 MHz	- 2200 MHz	FDD	1.4, 3, 5, 10, 15, 19	5, 10, 15, 20, 50		-
66	n66	1710 MHz	- 1780 MHz	2110 MHz	- 2200 MHz	FDD	1.4, 3, 5, 10, 15, 20	5, 10, 15, 20, 25, 30, 35, 40, 45		-
67	n67	N/A	- N/A	738 MHz	- 758 MHz	SDL	5, 10, 15, 20			-
68	n68	698 MHz	- 728 MHz	753 MHz	- 783 MHz	FDD	5, 10, 15			-
69	n69	N/A	- N/A	2570 MHz	- 2620 MHz	SDL	5, 10, 15, 20			-
70	n70	1695 MHz	- 1710 MHz	1995 MHz	- 2020 MHz	FDD	5, 10, 15, 20	5, 10, 15, 20, 25		North America
71	n71	663 MHz	- 698 MHz	617 MHz	- 652 MHz	FDD	5, 10, 15, 20	5, 10, 15, 20, 25, 30, 35	600 MHz Band	600 MHz Band / North America
72	n72	451 MHz	- 459 MHz	461 MHz	- 466 MHz	FDD	1.4, 3, 5			Europe
73	n73	450 MHz	- 455 MHz	460 MHz	- 465 MHz	FDD	1.4, 3, 5			China
74	n74	1427 MHz	- 1470 MHz	1475 MHz	- 1518 MHz	FDD	1.4, 3, 5, 10, 15, 20	5, 10, 15, 20		Japan
75	n75	N/A	- N/A	1432 MHz	- 1517 MHz	SDL	5, 10, 15, 20	5, 10, 15, 20, 25, 30, 40, 50		EU
76	n76	N/A	- N/A	1427 MHz	- 1432 MHz	SDL	5	5		EU
n77	n77	3300 MHz	- 4200 MHz	3300 MHz	- 4200 MHz	TDD		10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	C-Band	-
n78	n78	3300 MHz	- 3800 MHz	3300 MHz	- 3800 MHz	TDD		10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	C-Band	-
n79	n79	4400 MHz	- 5000 MHz	4400 MHz	- 5000 MHz	TDD		10, 20, 30, 40, 50, 60, 80, 100	C-Band	-
n80	n80	1710 MHz	- 1785 MHz	N/A	- N/A	SUL		5, 10, 15, 20, 25, 30, 40		-
n81	n81	880 MHz	- 915 MHz	N/A	- N/A	SUL		5, 10, 15, 20		-
n82	n82	832 MHz	- 862 MHz	N/A	- N/A	SUL		5, 10, 15, 20		-
n83	n83	703 MHz	- 748 MHz	N/A	- N/A	SUL		5, 10, 15, 20, 25, 30		-
n84	n84	1920 MHz	- 1980 MHz	N/A	- N/A	SUL		5, 10, 15, 20, 25, 30, 40, 50		-
85	n85	698 MHz	- 716 MHz	728 MHz	- 746 MHz	FDD	5, 10	5, 10, 15		-
n86	n86	1710 MHz	- 1780 MHz	N/A	- N/A	SUL		5, 10		-
87	n87	410 MHz	- 415 MHz	420 MHz	- 425 MHz	FDD	1.4, 3, 5			EU PPDR PMR/PMAR
88	n88	412 MHz	- 417 MHz	422 MHz	- 427 MHz	FDD	1.4, 3, 5			EU PPDR PMR/PMAR
n89	n89	824 MHz	- 849 MHz	N/A	- N/A	SUL		5, 10, 15, 20		-
n90	n90	2495 MHz	- 2690 MHz	2495 MHz	- 2690 MHz	TDD		5, 10, 15, 20, 25, 30, 40, 45, 50, 60, 70, 80, 90, 101		-
n91	n91	832 MHz	- 862 MHz	1427 MHz	- 1432 MHz			5, 10		-
n92	n92	832 MHz	- 862 MHz	1432 MHz	- 1517 MHz			5, 10, 15, 20		-
n93	n93	880 MHz	- 915 MHz	1427 MHz	- 1432 MHz			5, 10		-
n94	n94	880 MHz	- 915 MHz	1432 MHz	- 1517 MHz			5, 10, 15, 20		-
n95	n95	2010 MHz	- 2025 MHz	N/A	- N/A	SUL		5, 10, 15		n34 SUL
n96	n96	5625 MHz	- 7125 MHz	5625 MHz	- 7125 MHz	TDD		20, 40, 60, 80, 100		6 GHz NR-U full band
n97	n97	2300 MHz	- 2400 MHz	N/A	- N/A	SUL		5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100		n40 SUL
n98	n98	1880 MHz	- 1920 MHz	N/A	- N/A	SUL		5, 10, 15, 20, 25, 30, 40		n39 SUL
n99	n99	1626.5 MHz	- 1660.5 MHz	N/A	- N/A	SUL		5, 10		n24 SUL
n100	n100	874.4 MHz	- 880 MHz	919.4 MHz	- 925 MHz	FDD		5		EU Rail 900
n101	n101	1900 MHz	- 1910 MHz	1900 MHz	- 1910 MHz	TDD		5, 10		EU Rail 1900 TDD
n102	n102	5625 MHz	- 6425 MHz	5625 MHz	- 6425 MHz	TDD		20, 40, 60, 80, 100		6 GHz NR-U Lower 500 MHz
103	n103	787.1 MHz	- 787.9 MHz	757.1 MHz	- 757.9 MHz	FDD	NR-1eT only			Upper 700 MHz
n104	n104	6425 MHz	- 7125 MHz	6425 MHz	- 7125 MHz	TDD		20, 30, 40, 50, 60, 70, 80, 90, 100		Licensed 6 GHz
n105	n105	663 MHz	- 703 MHz	612 MHz	- 652 MHz	FDD		TBD - Rel 18		APT 600
n106	n106	896 MHz	- 901 MHz	935 MHz	- 940 MHz	FDD				Anterix private networks
...										
33	n33	1900 MHz	- 1920 MHz	1900 MHz	- 1920 MHz	TDD	5, 10, 15, 20		TDD 1900	-
34	n34	2010 MHz	- 2025 MHz	2010 MHz	- 2025 MHz	TDD	5, 10, 15	5, 10, 15	TDD 2.1	China
35	n35	1850 MHz	- 1910 MHz	1850 MHz	- 1910 MHz	TDD	1.4, 3, 5, 10, 15, 20			-
36	n36	1930 MHz	- 1990 MHz	1930 MHz	- 1990 MHz	TDD	1.4, 3, 5, 10, 15, 20			-
37	n37	1910 MHz	- 1930 MHz	1910 MHz	- 1930 MHz	TDD	5, 10, 15, 20		PCS Center Gap	-

38	n38	2570 MHz	-	2820 MHz	2570 MHz	-	2820 MHz	TDD	5, 10, 15, 20	5, 10, 15, 20, 25, 30, 40	IMT Extension	EMEA
39	n39	1880 MHz	-	1920 MHz	1880 MHz	-	1920 MHz	TDD	5, 10, 15, 20	5, 10, 15, 20, 25, 30, 40		China
40	n40	2300 MHz	-	2400 MHz	2300 MHz	-	2400 MHz	TDD	5, 10, 15, 20	5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	IMT-2000	China, Others
41	n41	2496 MHz	-	2696 MHz	2496 MHz	-	2696 MHz	TDD	5, 10, 15, 20	5, 10, 15, 20, 25, 30, 40, 45, 50, 60, 70, 80, 90, 101	US 2600	North America, China
42		3400 MHz	-	3600 MHz	3400 MHz	-	3600 MHz	TDD	5, 10, 15, 20			Japan, EMEA
43		3600 MHz	-	3800 MHz	3600 MHz	-	3800 MHz	TDD	5, 10, 15, 20			APAC, EMEA
44		703 MHz	-	803 MHz	703 MHz	-	803 MHz	TDD	3, 5, 10, 15, 20		APAC700	APAC
45		1447 MHz	-	1487 MHz	1447 MHz	-	1487 MHz	TDD	5, 10, 15, 20			China
46	n46	5150 MHz	-	5925 MHz	5150 MHz	-	5925 MHz	TDD	10, 20	10, 20, 40, 60, 80, 100	5 GHz LAA	5 GHz NR-U
47	n47	5855 MHz	-	5925 MHz	5855 MHz	-	5925 MHz	TDD	10, 20	10, 20, 30, 40	V2X	
48	n48	3550 MHz	-	3700 MHz	3550 MHz	-	3700 MHz	TDD	5, 10, 15, 20	5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	US 3.5 GHz	North America
49		3550 MHz	-	3700 MHz	3550 MHz	-	3700 MHz	TDD	10, 20		US 3.5 GHz, LAA	North America
50	n50	1432 MHz	-	1517 MHz	1432 MHz	-	1517 MHz	TDD	3, 5, 10, 15, 20	5, 10, 15, 20, 30, 40, 50, 60, 80		
51	n51	1427 MHz	-	1432 MHz	1427 MHz	-	1432 MHz	TDD	3, 5	5		
52		3300 MHz	-	3400 MHz	3300 MHz	-	3400 MHz	TDD	5, 10, 15, 20			
53	n53	2483.5 MHz	-	2495 MHz	2483.5 MHz	-	2495 MHz	TDD	1.4, 3, 5, 10	5, 10		North America
54	n54	1670 MHz	-	1675 MHz	1670 MHz	-	1675 MHz	TDD		5	TD 1700	Ligado TDD
XGP		2545 MHz	-	2575 MHz	2545 MHz	-	2575 MHz	TDD	-		XGP (non-3GPP band)	Japan

FR2 Bands							
NR Operating Band	Uplink (UL) operating band Base Station (BS) receive User Equipment (UE) transmit		Downlink (DL) operating band Base Station (BS) transmit User Equipment (UE) receive		Duplex Mode	NR Bandwidths	Nickname(s)
	FDL_Low	FDL_High	FDL_Low	FDL_High			
n257	26.5 GHz	29.5 GHz	26.5 GHz	29.5 GHz	TDD	50, 100, 200, 400	28 GHz Band
n258	24.25 GHz	27.5 GHz	24.25 GHz	27.5 GHz	TDD	50, 100, 200, 400	26 GHz Band
n259	39.50 GHz	43.50 GHz	39.50 GHz	43.50 GHz	TDD	50, 100, 200, 400	41 GHz Band
n260	37 GHz	40 GHz	37 GHz	40 GHz	TDD	50, 100, 200, 400	39 GHz Band
n261	27.5 GHz	28.35 GHz	27.5 GHz	28.35 GHz	TDD	50, 100, 200, 400	28 GHz Band
n262	47.20 GHz	48.20 GHz	47.20 GHz	48.20 GHz	TDD	50, 100, 200, 400	47 GHz Band
n263	57.0 GHz	71.0 GHz	57.0 GHz	71.0 GHz	TDD	100, 400, 800, 1600, 2000	60 GHz Band

Non-Terrestrial Network (NTN) Bands								
NR Operating Band	Uplink (UL) operating band Base Station (BS) receive User Equipment (UE) transmit		Downlink (DL) operating band Base Station (BS) transmit User Equipment (UE) receive		Duplex Mode	Region	NR Bandwidths	Nickname(s)
	FDL_Low	FDL_High	FDL_Low	FDL_High				
n255	1620 GHz	1660.5 GHz	1525 GHz	1559 GHz	FDD	All	5, 10, 15, 20	MSS L-Band
n256	1980 GHz	2010 GHz	2170 GHz	2200 GHz	FDD	All	5, 10, 15, 20	MSS S-Band

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